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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,530	01/24/2001	Corinna Lee	ATI010001	2404

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TOLER & LARSON & ABEL L.L.P.
5000 PLAZA ON THE LAKE STE 265
AUSTIN, TX 78746

EXAMINER	
CRAIG, DWIN M	
ART UNIT	**PAPER NUMBER**
2123	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,530	LEE, CORINNA	
	Examiner	Art Unit	
	Dwin M Craig	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 1-24-2001.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-74 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6,10-18,20-30,34-42,44-56,60-68 and 70-74 is/are rejected.

7)☒ Claim(s) 7-9, 19, 31-33, 43, 57-59 and 69 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 24 January 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-74 have been presented for Examination.

Claim Objections

2. Independent **Claim 1** is objected to because of the following informalities: The Phrase *"in a"* is repeated twice in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Independent **Claims 1, 25 and 49** and dependent **Claims 2-6, 12-18, 20, 27-30, 34-42, 44, 51-56, 62-66, 68 and 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Celi et al. U.S. Patent 5,687,376** in view of **Hsieh et al. U.S. Patent 5,883,640.**

3.1 As regards Independent **Claims 1 and 49** the *Celi et al.* reference discloses receiving a graphics function call from a driver **(Figure 1 Items 36, 34 and 32, Col. 1 Lines 40-**

67), converting the graphics function call to a native command set for execution on a native system **(Figure 2 Items 64a, 64b, 64c, Note the terms VMI commands and GHI commands, Col. 3 Lines 30-38, Col. 6 Lines 1-17, Col. 12 Lines 31-56),** and capturing the native command set **(Col. 12 Lines 57-67).**

However, the *Celi et al.* reference does not expressly disclose storing a graphics command data *packet* or *element* in a database structure.

In the related art of caching to improve performance of computer graphics adapters, the *Hsieh et al.* reference discloses storing command data packets in a database **(Col. 2 Lines 56-64).**

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have combined the graphics function call methods of the *Celi et al.* reference with the string cache database method of the *Hsieh et al.* reference because, the *String Cache* method described in the *Hsieh et al.* reference greatly reduces the communications required across the system bus, thus allowing for a more efficient method of storing data in a database during testing ***(Hsieh et al. Col. 3 Lines 9-13)***.

3.2 As regards independent **Claim 25** the *Celi et al.* reference discloses a system comprising, a data processor **(Figure 1 Item 15),** having an I/O buffer **(Figure 1 Item 17, Col. 3 Lines 60-67** *System memory is functionally equivalent to an I/O buffer***),** a memory having an I/O buffer coupled to the I/O buffer of the data processor **(Figure 1 Item 23),** the memory capable of storing code **(Col. 4 Lines 11-13),** receiving a graphics function call from a driver/application **(Col. 4 Lines 30-43, Figure 1 Items 36, 34 and 32, Col. 1 Lines 40-67),** converting the graphics

function call to a native command set for execution on a native system **(Figure 2 Items 64a, 64b, 64c,** Note the terms **VMI commands** and **GHI commands, Col. 3 Lines 30-38, Col. 6 Lines 1-17, Col. 12 Lines 31-56),** and capturing the native command set **(Col. 12 Lines 57-67).**

However, the *Celi et al.* reference does not expressly disclose storing a graphics command data *packet* or *element* in a database structure.

In the related art of caching to improve performance of computer graphics adapters, the *Hsieh et al.* reference discloses storing command data packets in a database **(Col. 2 Lines 56-64).**

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have combined the graphics function call methods of the *Celi et al.* reference with the string cache database method of the *Hsieh et al.* reference because, the *String Cache* method described in the *Hsieh et al.* reference greatly reduces the communications required across the system bus, thus allowing for a more efficient method of storing data in a database during testing ***(Hsieh et al. Col. 3 Lines 9-13)***.

3.3 As regards dependent **Claims 3, 27, 50 and 51** the *Celi et al.* reference discloses receiving multiple commands of the native command set and outputting commands **(Figure 2 GHI commands and VMI commands).** As regards dependent **Claim 51** translating commands from one instruction set to another is the functional equivalent to hardware emulation.

3.4 As regards dependent **Claims 4, 28 and 54** the *Celi et al.* reference discloses a *"draw"* command **(Col. 6 Lines 1-16).**

3.5 As regards dependent **Claims 5, 6, 29, 30, 34, 35, 55 and 56** the *Celi et al.* reference does not expressly disclose an *indexed* draw command. The *Hsieh et al.* reference discloses an *indexed* draw command **(Col. 9 Lines 10-31).**

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have indexed various graphics commands disclosed in the *Hsieh et al.* reference because, software queues are easily tuned to particular data communications conditions and applications ***(Hsieh et al. Col. 9 Lines 47-52).***

3.6 As regards dependent **Claims 12-16, 36-42, 52 and 62-66** the *Celi et al.* reference discloses a simulator **(Col. 5 Lines 18-35** *"simulation request manager 55"* **Figure 2 Item 55)** and different command sets **(Figure 2 VMI Commands and GHI commands).**

3.7 As regards dependent **Claims 17, 18, 20, 44, 67, 68 and 70** the *Celei et al.* reference discloses a simulation **(Col. 5 Lines 18-35** *"simulation request manager 55"* **Figure 2 Item 55)** and mapping and un-mapping a native and non-native command set **(Col. 13 Lines 1-11,** *note the use of a command template, which is used to map and un-map commands to be simulated by the manager, Figure 2 item 55 when a simulation request for a mapped command is presented*). The Examiner asserts that a *"command template"* is functionally equivalent to *"mapping and un-mapping"* commands.

4. Dependent **Claims 2, 26 and 50** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Celi et al. U.S. Patent 5,687,376** in view of **Hsieh et al. U.S. Patent 5,883,640** and in further view of *"OFFICIAL NOTICE"*.

4.1 As regards dependent **Claims 2, 26 and 50** the *Celi et al.* reference does not expressly disclose a single file database however, *"OFFICIAL NOTICE"* it would have been obvious, to one of ordinary skill in the art, to create a Database using a single file.

5. Dependent **Claims 10, 11, 10, 21-24, 45-47, 61 and 71-74** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Celi et al. U.S. Patent 5,687,376** in view of **Hsieh et al. U.S. Patent 5,883,640** and in further view of **Hochmuth et al. U.S. Patent 6,337,689.**

5.1 As regards independent **Claims 1 and 49** please see paragraphs **3.1** above.

5.2 A regards dependent **Claims 4, 5 and 54 and 55** please see paragraphs **3.4** and **3.5** above.

5.3 As regards dependent **Claims 10, 11, 60 and 61** the *Celi et al.* reference does not expressly disclose *Vertex data.*

The *Hochmuth et al.* reference discloses *Vertex data* **(Figure 2 items 134 & 200, 202 and 204, Figure 3 Items 318, 312, 314, 316, 318, Figures 5A, 5C, 9 and 10 Col. 2 Lines 51-64).**

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have used the vertex data formats in graphics adapters because, this is a well known in the graphics art method of organizing and presenting graphics commands and data as disclosed in the *Hochmuth et al.* reference **(*Hochmuth et al.* Col. 2 Lines 18-30).**

5.4 As regards dependent **Claims 21-24, 45-48 and 71-74** the *Celei et al.* reference does not expressly disclose commands for 2-d and 3-d graphics.

The *Houchmuth et al.* reference discloses graphics commands for 2-d and 3-d graphics **(Col. 2 Lines 51-65).**

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made to have used the 2-d and 3-d data formats in graphics adapters because, this is a well known in the graphics art method of organizing and presenting graphics commands and data as disclosed in the *Hochmuth et al.* reference **(*Hochmuth et al.* Col. 2 Lines 18-30).**

Allowable Subject Matter

6. **Claims 7-9, 19, 31-33, 43, 57-59 and 69** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and *any intervening claims*.

Conclusion

7. **Claims 1-74** have been presented for Examination. **Claims 1-6, 10-18, 20-30, 34-42, 44-56, 60-68 and 70-74** have been rejected. **Claims 7-9, 19, 31-33, 43, 57-59 and 69** have been objected to. This action is **NON-FINAL.**

7.1 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent 6,009,476 Flory et al. discloses a software emulation environment.
- U.S. Patent 6,115,054 Giles discloses an emulation system for use with a graphics frame processing.

7.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwin M Craig whose telephone number is 703 305-7150. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC